

3-8-12

Sample Space - the total # of possibilities

Ex: Pizza, Chicken Nuggets, Spaghetti

Sample Space is 3

Ex: Shirts : 6 colors

Sample Space is 6

Ex: Picking a student's name
from a class of 25

Sample Space is 25

Counting Strategies - The methods used
to find the Sample Space
when you are combining items

4 Strategies:

① Make an Organized List

Ex: How many ways can you combine
2 color cubes?

B

BW

W

WB

①

+

①

Sample Space is ②

How many combos. w/ 3 color cubes?

| | | |
|----------|----------|----------|
| <u>R</u> | <u>W</u> | <u>B</u> |
| RWB | WBR | BWR |
| RBW | WRB | BRW |
| <u>2</u> | <u>2</u> | <u>2</u> |

Sample Space is 6

Ex: How many combos w/ 4 colors?

| | | | |
|----------|----------|----------|----------|
| <u>R</u> | <u>W</u> | <u>B</u> | <u>G</u> |
| RBWG | WRBG | BGRW | GRBW |
| RBGW | WRGB | BGWR | GBWR |
| RGBW | WBRG | BWGR | GBRW |
| RGWB | WBGR | BWRG | GRWB |
| RWGB | WGBR | BRWG | GW RB |
| RWBG | WGRB | B R G W | GWB R |
| <u>6</u> | <u>6</u> | <u>6</u> | <u>6</u> |

Sample Space is 24

** If the list is going to be super long, at least start it in an organized way, & Discover a Pattern

Q: How many combos w/ 5 colors?

R W B G Y

RGBYW
RGBWY
RGYWB
RGYBW
BGWYB
RGWBY

6

RWBYG
RWBGY
RWYGB
RWYBG
RWGBY
RWGYB

6

RB

6

RY

6

$24 \times 5 = 120$
is the
sample
space